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AUTHOR Sutton-Smith, Brian
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ABSTRACT

This study links the Piagetian categories of classification with an analysis of the structure of riddles. Subjects were 623 elementary and junior high school students from small towns in Northwestern Ohio. The children provided experimenters with riddles and each riddle was scrutinized for possible inclusion in the following categories: (1) pre-riddle, (2) implicit reclassifications, (3) riddle parodies, (4) non-criterial relationships, (5) explicit reclassifications, (6) non-criterial classifications, and (7) multiple classifications. A riddle was defined as a puzzling question with an answer made arbitrary because the subject was expecting to react to meaning A but was given meaning B, and systematic because meaning A and B shared another semantic relationship. Results of the study indicate that riddles typify: (1) the preoperational period, (1st-2nd grade), (2) the two dimensional (3rd-4th grade), and (3) the focus on behavioral expectancies (5th and up). The riddle can be seen as a working model of the child-adult relationship of oral interrogation, ambiguity and humiliation. (ST)

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A DEVELOPMENTAL STRUCTURAL ACCOUNT OF RIDDLES

Brian Sutton-Smith
Teachers College, Columbia University

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Many years ago when I was teaching third graders, I was impressed with the fact that most teachers spoke in terms that were fairly incomprehensible to children a great deal of the time. It appeared to me that much adult conversation must have the character of an arbitrary series of puzzles to young children. Against that background the regular practise in which children stood up in front of a classroom and teased each other with incomprehensible riddles, struck me as both a model and a mockery of the adult-child process of communication. Some years later I hypothesized that riddles would appear cross-culturally in a context in which adults quizzed children orally, and in which the children were required to be attentive and responsive to such quizzing. The underlying assumption formulated by John M. Roberts and myself was that conflict induced by child training procedures leads to the development of expressive models within which children both restate the paradox and gain buffered experience in dealing with it (Sutton-Smith, 1973, 331). In a recent cross-cultural study of riddles, Roberts and Forman have gained considerable evidence for this point of view. In a survey of 146 cultures in the Human Relations Area Files, they found that riddles exist in cultures where rote learning from authority figures is emphasized, as well as oral interrogation by those figures. In addition there is evidence of high compliance training of the children, and of highly developed sensitivity to ridicule (Roberts & Forman, 1971).

The fun of the riddles on this account derives from the fact that their incongruities model, in a safe way, the larger process of adult interrogation and ambiguity. As a model of this process the riddle appears to be a contest in which one central person competes with another or others for the possession of the role of arbitrary authority. It is not strictly speaking a game of strategy because victory is not achieved by rational choice, and Roberts found that riddling was not highly associated with games of strategy cross-culturally. It is rather a game of rhetoric or arbitrary power in which victory is achieved by prior access to arcane knowledge in which they semantic logic of the riddles, like the power it conveys, is also arbitrary. The group formation of this game when it is played by children is most like those other arbitrary games, such as "Mother May I" and "Redlight", in which one player exercises control over the others, acting like a referee rather than another player. She tells them when they can move, what moves they can make, when they must start again, etc. (Ibid., 1973, p. 66)

In this paper I wish to consider an approach to the structure of the riddles themselves. Presumably the structures should mediate the types of ambiguity with which the children must deal in the larger child-adult process. I am here ignoring content, though one could point to the confirmatory point that in generalcontent involves an embodiment of some form of stupidity by morons or others, as if to echo the very predicament of character of the person who does not comprehend ambiguity.

My attention to the structural aspect of riddles was prompted by an article of Georges and Dundes (1963) entitled "Toward a structural definition of the riddle." In that article, they proposed two major categories of riddles, oppositional and non-oppositional. In the oppositional riddles, two oremore descriptive elements in the riddle are opposed to each other, one one can be true. The respondent must gues the referent. Thus:

What turns and never moves?
A road.

In the non-oppositional riddles the descriptive elements of the riddle and the referent are identical. Thus:

Got some yellow inside and green outside.
A pumpkin.

In their usage I was impressed first by the fact that the two types are different forms of classification, and second, by the realization that the bulk of children's riddles are, by contrast, like moron riddles and do not fit categories; categories which have served well for the analysis of traditional riddles throughout the world as these are used in adult societies and as recorded in Taylor's classic collection (1951).

It was decided, therefore, to collect a large sample of children's riddles which are known to peak in popularity at about the third grade, and to see if they could be handled as a problem in classification. Piaget and others have indicated that it is at about the age when riddles peak, that children show their initial competence in problems of verbal classification, reclassification and multiple classification. The limited forms in this paper, then, is on the specific semantic devices that give the riddler the materials for his exercise of arbitrary power in the rhetorical context. More specifically, it is an attempt to see if the Piagetian categories of classification provide an adequate basis for the analysis of the structural material of riddles.

Riddles were collected from a sample of 523 children in predominantly small towns of North Western Ohio in the early 1960's. The following table indicates the grade and sex of the respondents. There were three or four different schools involved in the contributions at each grade level.

TABLE 1: SUBJECTS

Grades:	1		2		3		4		5		6		7		8	
Sex:	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f
N:	10	15	38	41	47	62	47	58	56	56	35	34	17	17	46	45

Children in grades 1 and 2 were asked to contribute their favorite jokes orally. From grade 3 onwards they were written down. In the first three grades the contributions were predominantly riddles, by the eigth grade, they were predominantly jokes. The collection yielded a total of 316 riddles and 455 joke responses.

TABLE 2: JOKE & RIDDLE RESPONSES

Grades:	1	2	3	4	5	6	7	8	Total
Riddles	17	31	76	57	44	28	20	43	316
Jokes	9	6	32	50	90	40	76	132	455

The riddles in this collection have been classified as preriddles, implicit reclassifications, riddle parodies, non-criterial relationships, explicit reclassifications, non-criterial classifications and multiple classifications. Their frequencies in the children's responses are as follows:

TABLE 3: TYPES OF RIDDLES

Grades	1	2	3	4	5	6	7	8	Total
Pre-riddle	7	12	-	1	2	1	1	-	24
Implicit	6	15	50	33	31	18	12	31	196
Parody	3	3	8	5	5	9	-	5	38
Non-crit. R.	-	1	6	14	-	1	6	4	32
Expl.-reclas.	2	-	9	-	4	-	-	-	15
Non-crit. cl.	-	-	4	4	-	-	-	-	8
Multiple	-	-	1	2	-	-	-	-	3
	18	31	78	69	42	29	19	40	316

Type I. Preriddles

Why did the man chop down the chimney?
He needed the bricks.

About 7% of all responses were preriddles. These non-riddles actually constitute about a third of all responses in the first two grades. A study of riddles given by four year-old children indicates that at that level, the percentage of such responses rises to as much as 80%. (Park, 1971) Although these questions and answers would not generally be recognized as riddles, they are all couched in question and answer form, and they are all presented as if they constitute some sort of puzzle. Additionally, there is in all of these pre-riddles no systematic way of knowing what the answer might be. It is a matter of the riddler's idiosyncratic experience. Shultz also found six year-olds preferred incongruous riddles to congruous ones. The incongruity tenet gets a +1 for funniness and this stage requires no resolution (1972). Nevertheless, the diffuse perception of these younger children perhaps actually highlights some of the salient or more obvious characteristics of the riddle, even if its subtler logic escapes them. From their "primitive" viewpoint, it seems that the riddle is a puzzling question with an arbitrary answer. While we hesitate to put this definition ahead of

the more sophisticated ones which will follow, it certainly bears some attention, particularly if it turns out to be the case that the only difference from true riddles is that in the latter the contrariness of the answers takes on a systematic rather than an idiosyncratic character. Additionally, if a riddle is indeed a contest and a way of sowing confusion amongst one's antagonists as Abrahams suggests, these idiosyncratic examples would certainly serve that purpose (Abrahams, 1968). The definition certainly epitomizes the child-adult relationship mentioned earlier.

It is not always possible to tell whether one is dealing with a preriddle or a riddle parody. In some cases, it is only the well-established character of the "idiosyncratic" answer that establishes it as a traditional riddle rather than a purely personal response. In other cases, the preriddle is a degeneration of a real riddle.

Type 2. Implicit Reclassification (Homonymic Riddles)

Why did the dog go out into the sun?
He wanted to be a hot dog.

The largest class of children's riddles across the grades from one to eight (over 60% in this collection) are those in which a word, term, letter, etc., is presented in one way, but then implicitly reclassified in some other way so as to produce an anticlimax or bathos. Taking the example, here a class (dogs) and a class attribute implied by the question (dogs of high temperature) are reclassified in the answer to form a new class (frankfurters) with the same attribute (high temperature). The arbitrariness of the connection between question and answer consists in treating a homonym (dog) in both classes as if it were a synonym. If any principle stands out from this large corpus of children's riddles, it is that homonyms are not synonyms. We may now amend our original definition of a riddle as a puzzling question with an arbitrary answer. For the riddles of Type 2, we can define the riddle as a puzzling question the answer to which involves the preservation in the object of reference of homonymic continuity from question to answer, but a reclassification of the synonymic significance of the object. This implies that answers to riddles are not completely arbitrary. They are restricted by the lexical diversity of use allowed by particular words and particular letters. The linguistic play of children as manifested in riddles is in these terms an exploration of lexical diversity. This view corresponds neatly with Frank Kessel's recent conclusion that as early as kindergarten, children can understand lexical ambiguities (Kessel, 1970).

Although the riddles of Type 2 are structurally like those of the classical Type 5 below, the attempt to guess the homonym is not explicit as it is in the traditional riddle. It is veiled in the story like form of moronic and other happenings.

There is another type of traditional riddle of which no examples were received in this inquiry, which have been known as Wellerisms, in which the central usage of homonymic-synonymic confusion is repeated. But now instead of the subject guessing how the object of reference might be

reclassified, the original objects of reference are examined in search of spuriously parallel homonymic structure. Thus:

What did the bull say when it swallowed a bomb?
Abominable.
What did the window say when the tree fell through it?
Tremendous.

Type 3: Riddle Parodies

Why did the chicken cross the road?
He wanted to get to the other side.

While the bulk of riddles (that is, the former class) set up the expectation that the terms of reference will be given the semantic significance they carry in the questioning statement, then ;proceed to upset that expectation, riddle parodies upset the expectation of such a relationship between question and answer by giving a straightforward answer.

How much dirt in a hole 5 by 3 by 3 feet?
None.

After the implicit classifications, these are the next largest class (12% in this collection). Clearly we are not dealing here with something we can analyse in terms of the reclassification of particular words or letters. The arbitrariness here, is in defeating the expectations that such a verbal logic will indeed occur. Instead of getting a complicated answer, we get a direct one. Some of the responses are straight puzzles masquerading as riddles, for example, the question about the amount of dirt in a hole.

Type 4: Non-criterial Relationships

What does one flea say to another as they go strolling?
Shall we walk or take a dog.

Here as in the reclassificatory jokes (about 10%), expectations implied in the meaning of the first statement are not met. Here however, the meanings of words or letters are not reversed, but what Barker and Wright might call the standing patterns between relationships -- between objects and events are changed. The answer suggests a new relationship between the events which is either improbable or of low order probability for the way of thinking about those events suggested by the question.

Type 5: Explicit Reclassifications

What has an ear but cannot hear?
Corn.

Here a classification is presented, then one of its criterial attributes is denied (4%). Sometimes the denied attribute is a basic function, sometimes a normal part of the object, sometimes a usual consequence of the function. In these riddles, a homonym also masquerades as a synonym. The ear that hears and the ear of corn are not really the same ear, even though they have the same form. The difference from the implicit classificatory riddles above is that in these present Type 5 riddles, sometimes known as oppositional riddles, the reclassificatory puzzle is explicitly presented, rather than having to be inferred as in the other variety.

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These classificatory puzzles need not be stated in oppositional form. Thus:

When is a window good to eat?
When it is jammed.

Type 6: Non-criterial Classifications

White inside and red outside?
An apple.

Here two contrasted attributes are to be classified (2%). These are, however, not the attributes that are usually thought of as central to describing this particular class. They are not criterial for the class. The classification is sometimes literal, sometimes metaphoric. Homonyms are not involved. This and the previous type constitute only 6% of the present collection, yet they comprise the bulk of most traditional collections and what Arther Taylor has termed "true riddles."

Type 7: Multiple Classifications

What is the difference between a teacher and an engineer?
One trains the mind, the other minds the train.

These are riddles usually proceeded by the question: "What is the difference between X and Y?" (1%) Here there is usually a double homonymic-synonymic relationship, and the requirement for reclassification of the opposition is explicit. These are known traditionally as conundrums.

Discussion

The above materials show that approaching the elements of riddles as problems in classification, reclassification and multiple classification, implicit or explicit, does handle the bulk of the present data (about 70%), but does not handle it all. The rest are formulaic questions and answers of an idiosyncratic or obvious sort. So a definition of the riddle in general has to be made in a weaker way than the one we were able to provide for the largest sub-class in this collection.

So our final definition might be something like this: The riddle is a puzzling question with an answer made arbitrary by the fact that the subject was expecting to react to meaning A and was given meaning B, but made systematic by the fact that meaning A and B share another semantic relationship.

Developmentally speaking, we have noted a number of trends. Like Shultz we also find that the age from 6-8 years demonstrate a shift from a stage of pure incongruity (the preriddle) to a stage of resolvable incongruity. Preriddles are a third of the jokes in the first two grades. By the third grade, the riddles of implicit reclassification are dominant and they remain so throughout this collection to the 8th grade. Which is to say that a Piagetian account of riddle structure is an exercise in classificatory ambiguities accounts for the major portion of this developmental phenomenon. By the fourth grade, however, the non-criterial riddles which have more to do with expected behavior patterns, than with classificatory logic come into play. Also, by the fourth grade and clearly thereafter, riddles give way to other

joke forms in which questions of human relationships dominate over questions of the lexicon and classification.

We may sum this material by saying that three major periods are typified in this material. The preoperational period, when a child thinks of objects or sentences in a unidimensional way. So that when he is asked how many words there are in the sentence: "The ma has 20 chocolates?" he says there are 20 words (Beilin, 1972). By grade three, however, he knows that a sentence can contain two dimensions (have 20 chocolates by only five words), just as objects can have two dimensions (number and extension), and words can have two meanings (hot dogs and hot dogs). By the fifth grade, his interest in ambiguities, at least as reflected in jokes, focuses dominantly on behavioral expectancies. But that is the subject of another study.

Let me recall finally, the introduction to this account, where I stressed the child-adult relationship of oral interrogation, ambiguity and humiliation, and saw the riddle as a working model of this relationship. The present developmental materials help to focus attention to the particular ambiguities that are the center of attention across these age levels. But it would be wrong to imply that the ambiguities as highlighted in this paper will always be the center of children's attention. My anecdotal impression is that a similar survey done today might give higher importance to the riddle parodies, which are inclined to mock any form of expectancy rather than merely classificatory ones. For example, one often finds today a succession of riddles which provide their own set of expectancies and then reverses them for anticlimax.

How do you shoot a pink elephant?
With a pink elephant gun.
And
How do you shoot a blue elephant?
You dye it pink and shoot it with a pink elephant gun.

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